# Broadview Sewer & Drainage Improvements

**Public Meeting - April 6, 2011**

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# Agenda

| | |
|---|---|
| 6:00 p.m. | Open House |
| 6:30 p.m. | Welcome & Meeting Overview |
| 6:40 p.m. | Broadview Projects |
| 6:50 p.m. | Review of Research & Flow Monitoring |
| 7:00 p.m. | Action Plan for 2011 |
| 7:30 p.m. | Long-term Action Plan |
| 7:40 p.m. | Next Steps |
| 7:45 p.m. | Questions & Comments |

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# Broadview Projects

## Post-Storm Priority Assessment

- ❑ Broadview impacts severe although rainfall less than other areas (about 3 inches in 24 hours)
- ❑ Priority raised for capital improvements and storm response plans
- ❑ Schedule accelerated
- ❑ Staffing levels increased
- ❑ Funding allocated

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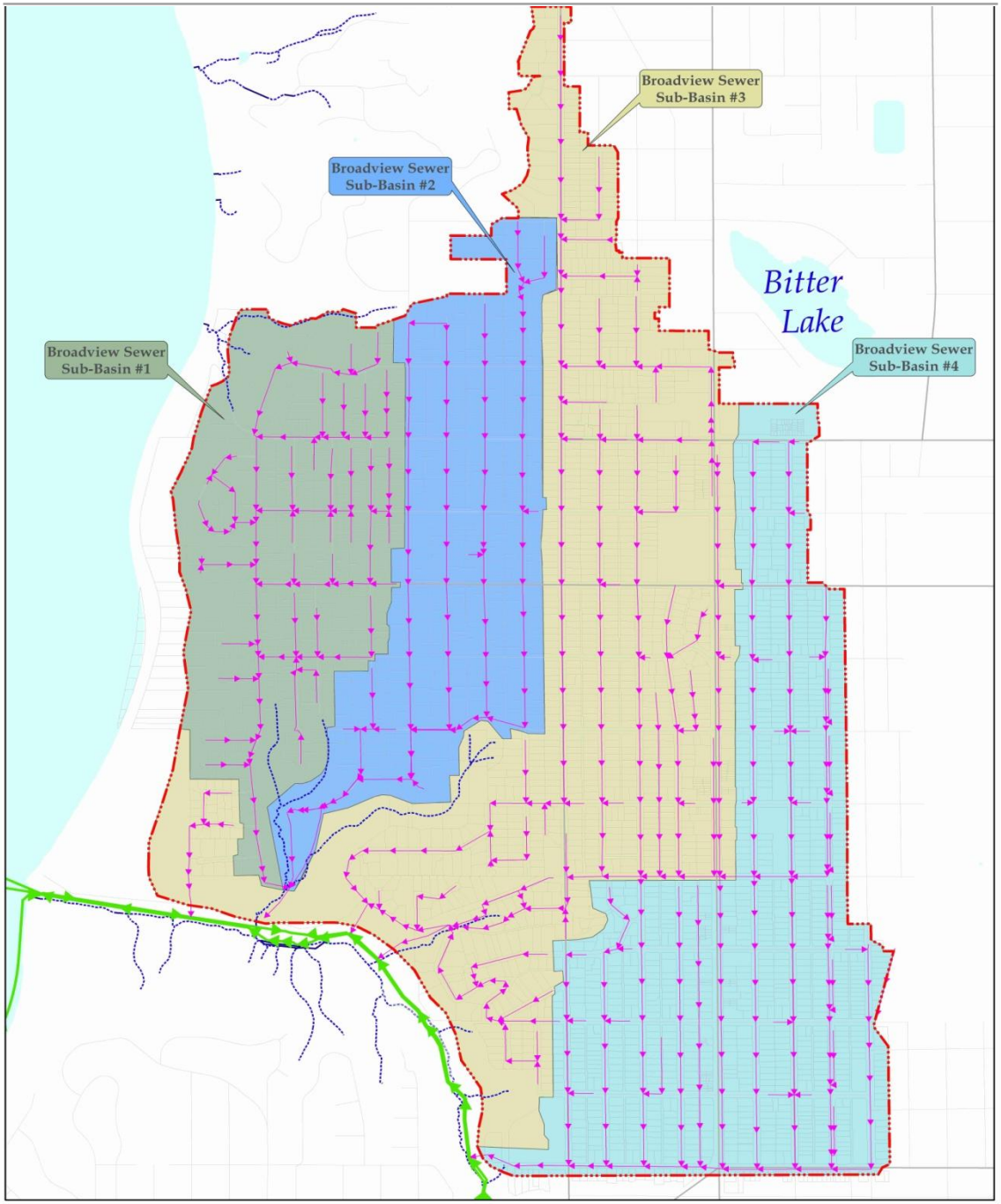


# Broadview Sub-basins

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# Research & Flow Monitoring

- Pipes in western & eastern portions smoke tested
- Monitors installed to measure sewer flows

- Field mapping of drainage system
- Calibrated sewer system model developed

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# Stormwater Sources

- **Capacity of sewer system in some areas may be exceeded as rainfall reaches 2-3 inches in 12 hours**
- **No single major source of stormwater inflow**
  - Direct inflow
  - Base infiltration
  - Slow and rapid infiltration
  - Footing drains, foundation drains, & sumps

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# What We Concluded

- **Capacity enough for sewage, but stormwater volume exceeds system's capacity in some areas**
- **Multi-pronged solution needed:**
  - Reduce side sewer infiltration
  - Reduce inflow from direct connections (downspouts)
  - Consider use of backflow preventers
  - Continue proactive maintenance
  - Conduct additional monitoring to inform design for long-term capital projects

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# Action Plan for 2011

## Proposed Backflow Prevention

- Interim measure for those with sewer backups
- Considering use of backwater valves and grinder pumps
- Modeling sewer system to assess candidate locations
- Will work directly with homeowners identified as possible candidates

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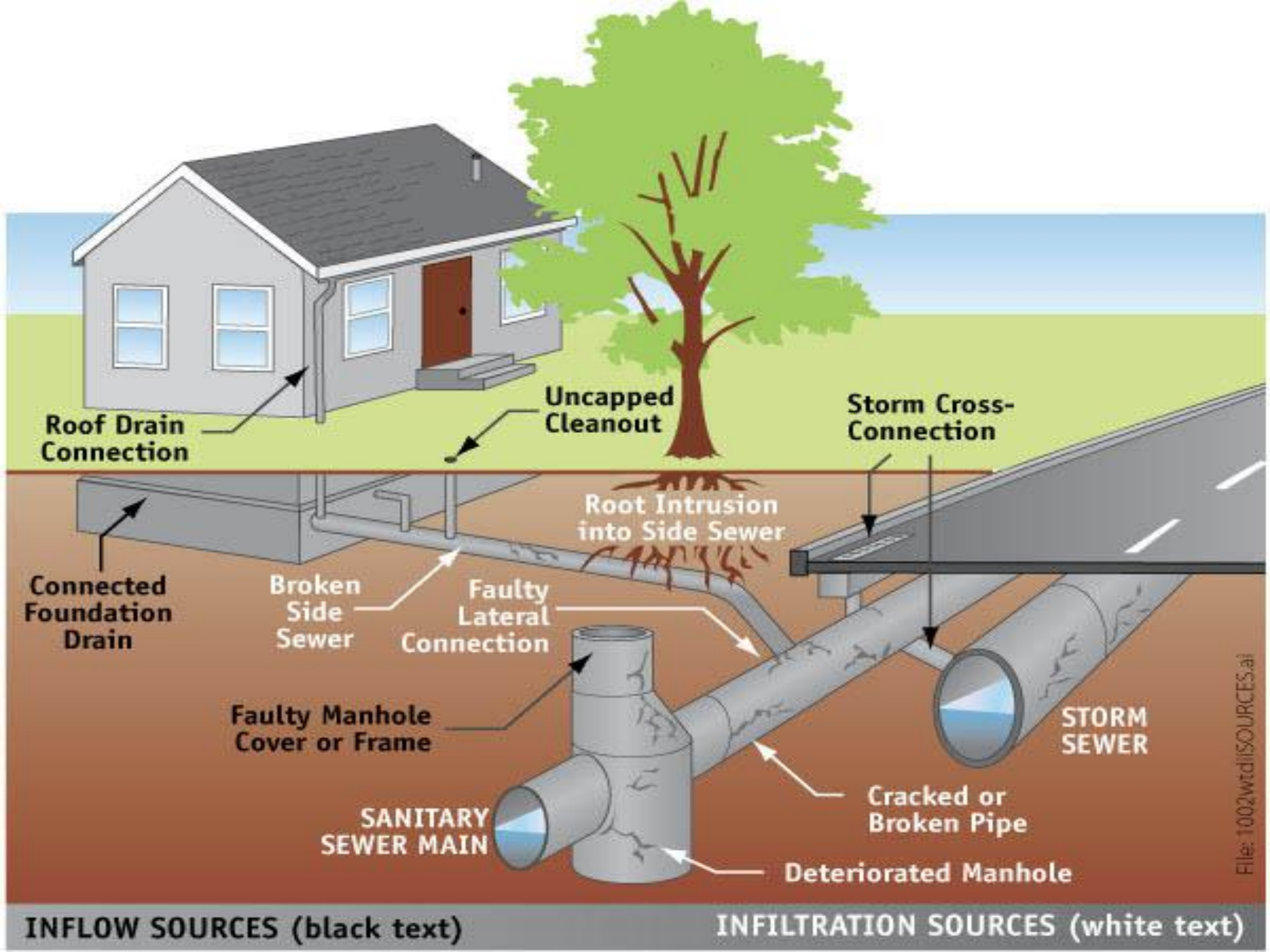
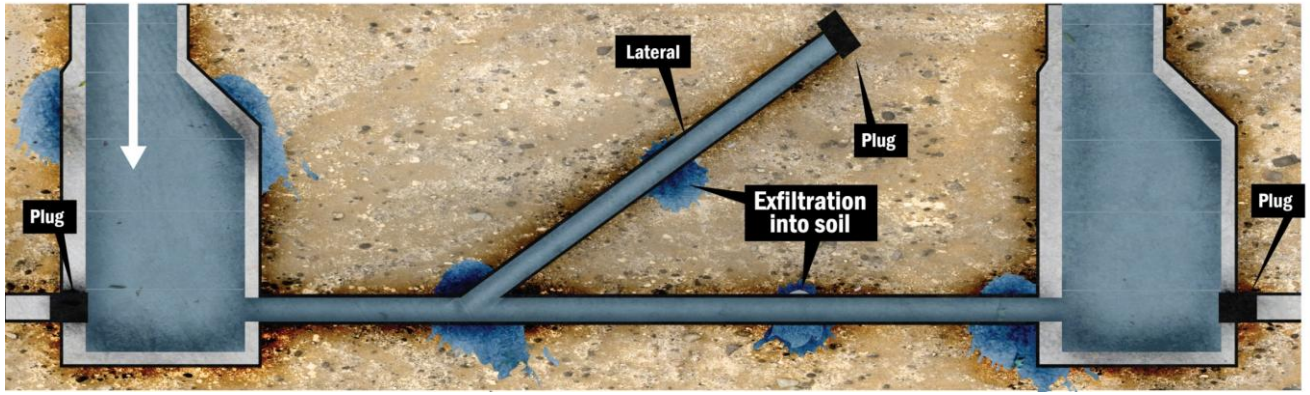

Roof Drain Connection
Uncapped Cleanout
Storm Cross-Connection
Root Intrusion into Side Sewer
Connected Foundation Drain
Broken Side Sewer
Faulty Lateral Connection
Faulty Manhole Cover or Frame
STORM SEWER
Cracked or Broken Pipe
SANITARY SEWER MAIN
Deteriorated Manhole
File: 1002wtdISOURCES.ai
INFLOW SOURCES (black text)
INFILTRATION SOURCES (white text)

# Infiltration Reduction Pilot

- Focused on 12th Avenue sub-basin
- Starts with inspecting side sewers
- Grout cracks in pipes
- Monitor to measure improvement
- Upcoming meeting with homeowners

Flooding of an isolated section of sewer with proprietary solutions

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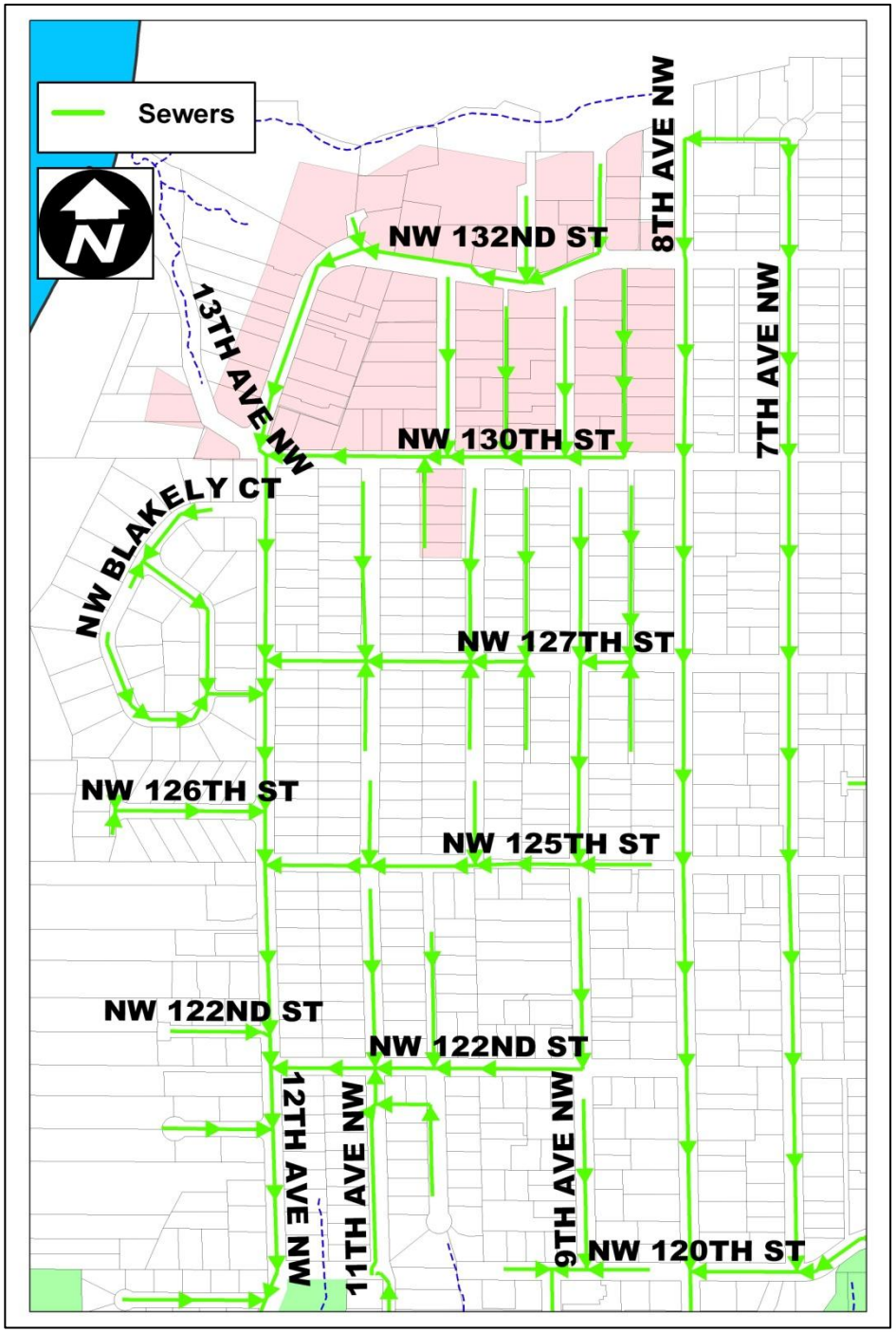


# Infiltration Reduction Pilot

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# Long-term Action Plan

**Preliminary Alternatives**

- ❑ Seal existing sanitary sewers or replacing them
- ❑ Construct stormwater conveyance systems, including storage and treatment
- ❑ Remove stormwater connections from sewer
- ❑ If needed, upsize sewer system in certain locations

**Schedule**

2011 – Alternatives Analysis

2012 – Design

2013 – Possible start for implementation

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# Long-term Action Plan
## How Will Decisions Be Made?

- SPU will be assessing options and working with community before deciding on final, preferred alternative
- Long-term project will be informed by results of pilot projects

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# Next Steps

1. Please provide email address for updates
2. Check email for messages about upcoming meetings
3. Regular e-mail progress reports on all improvements
4. Project website in development
5. Call Martha Burke with questions, (206) 684-7686
6. Infiltration Reduction Pilot scheduled to begin in May
7. Will work with Broadview Sewer Task Force to schedule next community meeting, likely September

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# Questions and Comments

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# Thank You
# for Your Input!

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